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'Philosophizing with' – a role for philosophy as dialogue partner, exemplified within the learning field

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1   Abstract

In this essay, I shall present key points from my dr.phil thesis (Higher Doctorate/Habilitation), Epistemological concerns – querying the learning field from a philosophical point of view (Dohn, 2017).1 The aim is to provide an overview of the thesis and to present its main argument for a form of applied philosophy where philosophy takes on the role of dialogue partner with a voice of its own. By way of illustration, I shall highlight some of the issues I have engaged with in this role as well as the answers which dialogue with other disciplines has led me to as regards these issues. First, I present the field, aim, and structure of the thesis. Second, I explicate what I mean by 'philosophizing with' and point out four different ways in which one can undertake this venture. Philosophy may dialogue with many disciplines in many areas; the ones I have engaged with fall within the learning field. To further the comprehensibility of my more specific concerns within this field, in the third section I articulate the philosophical outset from which I speak: With inspiration from Heidegger, Merleau-Ponty, Wittgenstein and Dreyfus, I hold a view of human existence as being-in-the-world and an approach to knowledge as fundamentally involving tacit aspects. This outset is developed throughout the thesis, in dialogue with other disciplines. In section four, I briefly present the resulting philosophical view of knowledge. In section five, I articulate more specifically a number of the issues within the learning field which have helped me develop this view. Section six conversely summarizes some key points which my philosophizing with on these issues have led me to contribute to the disciplines. I end with a few concluding remarks on concerns to engage with in continuation from the results of my thesis.

2   Field, aim and structure of the thesis

The field of my dr.phil thesis is applied philosophy within the learning field. Applied philosophy can be defined quite generally as the putting to use of philosophy within other disciplines and in the service of practical concerns. Philosophy of science, political philosophy, and practical ethics are longstanding domains of applied philosophy. Here, philosophy has contributed with, respectively, ontological and epistemological analyses of scientific theory and practice; metaphysical and ethical analyses of the nature of man and the proper structure of society; and ethical analyses of questions such as abortion, euthanasia, and use of welfare technology. Much of the work undertaken under the heading of educational philosophy may be considered applied philosophy within the learning field, though the two domains do not coincide: The learning field is broader than education, as it encompasses understandings of learning beyond what is relevant for education. For instance, the architecture of cognition as discussed by cognitive science and the role of the body in cognition falls within the learning field (Lakoff, 1990; Schilhab, 2007). So do informal and incidental learning in the workplace and analyses of learning as negotiation of meaning in communities of practices at work (Lave & Wenger, 1991; Marsick & Watkins, 1990; Wenger, 1998). Therefore, philosophical analyses of cognitive science issues lie within the remit of 'applied philosophy within the learning field' (Gallagher, 2005; Johnson, 1987; Searle, 1980). As do philosophical analyses of workplace learning (Josefson, 1991, 1998; Molander, 1992, 1996; C.

Winch, 2013, 2016). Conversely, educational philosophy includes analyses of e.g. concepts of education held by different philosophers, and the idea of the university over time (Korsgaard, Kristensen, & Siggaard Jensen, 2017; Kristensen, 2007). Such analyses are, perhaps, less instances of applying philosophy to the education domain, and more instances of tracing the history of ideas about education. Lines between domains will not always be easily drawn, however. In any case, the primary focus of my thesis falls within both domains: The issues regarding which I undertake applied philosophy are all educational, though some of them concern the crossing of boundaries between educational and non-educational settings.

The aim of the thesis is to argue for a view of applied philosophy as philosophizing with, understood as the co-investigation with other disciplines of issues of common interest. My argument proceeds through theoretical analysis and practical exposition, the latter in the form of a "the proof of the pudding is in the eating"-argument. Thus, I argue metaphilosophical for the potentials of philosophizing with for both philosophy and other disciplines. I further engage philosophically with a number of 'issues of common interest' and thereby show the merits of the approach in the usefulness of applying it. Of course, my thesis is also an argument for the insights gained as a result.

The terms 'co-investigation' and 'common interest' should be underscored: The acknowledgement of the other disciplines' contributions is important, both as concerns the delineation of issues to be investigated and as concerns input about these issues. Philosophizing with thus does not comprise the form of applied philosophy, where a field is gauged from the outside and questions asked about it which are not concerns of the field itself. Thagard's analysis of astrology as a pseudoscience would be one example of applied philosophy that is not a form of philosophizing with (Thagard, 1978). Arguably, it is not a central issue of astrology whether it is a scientific discipline or not, and in any case, Thagard certainly did not take contributions from astrology on the issue into account in his discussion. Also within the field of philosophy of science, Popper's reconstruction of the logic of scientific inquiry is a further example of applied philosophy that is not philosophizing with (Popper, 1959, 1972): Its focus on the logic of justification, rather than the context of discovery, demarcates contributions from science about how scientific progress actually came about as of minor interest. Such contributions describe instances of justification in practice where scientists de facto convinced their peers, but do not address Popper's normative question of when scientists should be convinced. That is, they do not articulate what is required for theories to be justified from a logical point of view. Popper, in turn, does present his answer to this question as constituting methodological guidelines for scientists. However, in practice, the guidelines are not very helpful. In one sense, they are far too severe, requiring scientists to do their best to falsify their theories, though at initial stages of theory development this will be premature and detrimental to progress. In another sense, Popper's guidelines are far too lenient, as they do not explicate in any detail how falsification should be brought about. Arguably, therefore, the guidelines are neither necessary nor sufficient for scientific progress – and, indeed, are not followed in practice (Feyerabend, 1975; Kuhn, 1970; Lakatos, 1980). For this reason, though the issue of scientific methodology is of course of interest to the sciences, the particular way Popper understands this issue demarcates it as one not of 'common interest'.

The thesis consists of 10 articles, previously published in peer-reviewed international outlets (8 in journals and 2 in anthologies), along with a detailed introduction of approximately 130 pages. The introduction explains my view of applied philosophy as philosophizing with and articulates the thread running through the articles, their interconnection and the view of knowledge, learning, and situativity developed in them. In addition, the introduction situates my view within the academic landscape, epistemologically and learning-theoretically, and provides an abstract for each of the articles. I have written the thesis as an anthology to "practice what I preach": The articles have been published over a period of nearly 10 years, most of them in outlets belonging to other disciplines such as psychology or in outlets of interdisciplinary nature. They each constitute a contribution to a particular issue within the learning field, inviting response in further articles from authors within other disciplines. They have allowed me to continuously engage in dialogue about 'issues of common interest', both formally through taking up the written response of others and more informally in conference and seminar discussions.

The first article provides the metaphilosophical foundation: It explicates the concept of philosophizing with, articulates four ways of practicing it, and argues for the form I find most productive: Philosophy as a dialogue partner with a voice of its own (Dohn, 2011b). The remaining 9 articles engage in philosophizing with by taking on specific debates within the learning field. These debates range from the situativity of learning (Dohn, 2016); over the need for action researchers to develop tacit knowledge within the practice they wish to improve (Dohn, 2014); the suitability of reflective activities for improving practice and practitioners' competence (Dohn, 2011a); and the tensions involved in utilizing web 2.0-activities for learning within educational settings (Dohn, 2009a, 2009b); to the validity of OECD's assessment of literacy in its Programme for International Student Assessment (PISA) (Dohn, 2007b). Taking on these specific debates allows me to contribute to the learning field with analyses of situativity, research and assessment methodology, reflection, and learning activities; whilst simultaneously developing my philosophical view of knowledge

in dialogue with the diverse ways in which knowledge is viewed, investigated, and facilitated within the learning field. This double move of development through use of a philosophical view, on the one hand, and taking a stance in concrete discussions within other disciplines and in practical matters, on the other, is characteristic of philosophizing with in the form of being a dialogue partner.

The title of the thesis reflects these different aspects. Firstly, an important epistemological concern is the metaphilosophical one "what roles can philosophy play in and for other disciplines?" The subtitle indicates an answer: "It can query the disciplines (here: the learning field) from a philosophical point of view. Secondly, the title and subtitle indicate the way I undertake this querying through engaging in philosophizing with. The ambiguity of the term 'concern', meaning both 'issue' and 'worry', is here intentional. Thus, in the thesis, for one thing, I investigate issues of an epistemological nature within other disciplines, subject to the condition that these issues are also of interest to the disciplines in question. For another, from an epistemological point of view, I have worries about aspects within the learning field and therefore engage in dialogue about them.

3   'Philosophizing with'

On my view, philosophy has potential to be a dialogue partner to other disciplines with a voice of its own. Fundamental to this view is the claim that philosophy is not secluded epistemologically from the empirical sciences. Contrary to some renderings of philosophy[1], that is, I do not view philosophy as a priori conceptual analysis, to be carried out ahead of the empirical sciences' a posteriori investigation of the phenomena referred to by the concepts. Conceptual analysis has a role to play in philosophy, but this fact does not render philosophical argumentation a priori. Firstly, it is debatable whether conceptual analysis itself is a priori, as concepts may reasonably be said to be bound up with the empirical (Quine, 1951). Bourdieu even argued that the distinction between a priori and a posteriori is a rationalization of specific socio-historical practices which elevates philosophical practices above the rest of society (Bourdieu, 2000). Secondly, and more decisively, philosophy makes use of many other kinds of 'reflective input' such as empirical data, phenomenological and hermeneutical analyses, and commonsense observations. Philosophical views often have empirical presuppositions and in many cases, they have empirical implications as well.

One example of the former is the brain-in-a-vat argument for skepticism, the modern-day version of Descartes' evil demon (Putnam, 1981): How do we know that we humans are not just brains in vats, provided by an evil scientist with input to our neurons which we then mentally experience as 'sensuous input'? And how do we know that our 'acts in the world' are not just further neurons firing, in response to the 'sensuous input', and experienced mentally by us as 'output' – which then again effects new 'input' to our neurons? With unimportant differences, this thought experiment has been popularized in the movie Matrix where humans are kept locked into a machine which 'harvests' their energy processes, but are provided with a rich mental world through complex neuron stimulation, so that they are unaware of their real predicament. Such a brain-in-a-vat argument for skepticism builds fundamentally on a model of perception as an input-processing-output procedure where external stimuli are 'processed' to become mental images in the mind as a separate place. The philosophical argument therefore presupposes the empirical adequacy of this model. In point of fact, the model is seriously questioned from the standpoint of ecological perception and situated cognition theory, according to which perception is a factor in the dynamic structured coupling between sensation and action (Clancey, 1997; Gibson, 1986; Greeno & TMSMTAPG, 1998).

An example of a philosophical view with empirical implications is the analysis of expertise provided by Hubert and Stuart Dreyfus (Dreyfus, 1979; Dreyfus & Dreyfus, 1986). Inspired by Heidegger and Merleau-Ponty, they provide a phenomenological analysis of agency, skill and human being-in-the-world. This leads them to argue that expertise consists in intuitive, experience-based action in response to the unique situation, based on the experts' flexible recognition of the gestalt of the situation as similar to others they have been in. In particular, Dreyfus and Dreyfus argue against the view that expertise consists in rule-following symbol manipulation. Their account holds implications for the viability of classic artificial intelligence which modelled skill as precisely this: rule-following symbol manipulation. The empirical prediction of Dreyfus and Dreyfus' argument is that it will never be possible to build a machine that

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[1] This is the traditional view of philosophy, held by e.g. Kant (who argued that philosophy can make a priori, 'synthetic', i.e. non-empty claims about the world) and the logical positivists (who argued that this is impossible). Contemporary proponents of the view are Bennett and Hacker (Bennett, Dennett, Hacker, Searle, & Robinson, 2007; Bennett & Hacker, 2003). Like the logical positivists, they claim that philosophy cannot provide synthetic statements about the world. However, on their view, philosophy can investigate conceptual truths which delineate what it does and does not make sense for the sciences to say a posteriori.

displays expertise. At the time of their writing, they could argue that – in line with their claims – no computer had been able to beat a human in chess. According to them, the expert's intuitive, holistic understanding of the game resulted in actions superior to the moves made by the computer which were based instead on repeated, symbol-manipulative calculations of possible outcomes of the game, given the layout of the board at each moment. Since then, computers have repeatedly beat humans in chess. Newer computers based on neural nets are 'self-learning' and work differently than classic AI, amongst others because they use heuristics and can to some extent 'learn' to recognize gestalts. Therefore, their victories do not constitute refutations of the Dreyfusian predictions. However, the first computer to defeat a human, DeepBlue, which beat World Chess Champion Garry Kasparov in 1997, did so based on classic symbol-manipulative calculation. The difference between this computer and other classic AI computers was only a matter of much bigger calculative power. Deep Blue's victory thus does constitute a contradiction of Dreyfus's predictions. As the chess environment is bounded and limited in a way which professional practice is not, the victory does not refute Dreyfus's skill analysis as such. It does, however, show that there are other ways of displaying expertise within a restricted environment than the one Dreyfus claims is characteristic for human expertise. At the very least, the contradicted predictions imply the need for reevaluating the scope of the analysis, as concerns domains and environments, and perhaps also as concerns the alleged general ontological difference in the bases of human and machine behavior, respectively. In other words, because the Dreyfusian philosophical analysis has empirical implications, it can be empirically challenged.

In general, the fact that philosophical views often have empirical presuppositions and empirical implications means that philosophy can enter into dialogue with the empirical sciences. Not only to be empirically challenged (or supported) but also to challenge (or support) empirical investigations. It also means that philosophy had better be empirically informed so as not to build elaborate theories from an invalid outset (as, arguably, brains-in-a-vat skepticism does). The point is that philosophy in many instances concerns itself with the same subject matter or domain as other disciplines – in the case of epistemology, the subject matter is knowledge, human cognition, and learning as actual empirical phenomena. Philosophy, however, pursues normative and foundational issues that often transcend the empirical accounts. In the case of epistemology, examples of such questions are: What is knowledge? Are there more knowledge forms than one and if yes, how do they relate to each other – what makes them all instances of the genus 'knowledge'? How can knowledge claims be justified? How does one tell a genuine case of knowledge from one that is only apparent? The goals of philosophy thus do not coincide with the (diverse) goals of other disciplines. For this reason, philosophy can have a voice of its own in the dialogue about the common empirical subject matter. With this voice, it can challenge interpretations of empirical results; it can query research methods for their adequacy in investigating given questions; and it can challenge the philosophical presuppositions about the subject matter inherent in empirical investigations. It can also point out implications of philosophical presuppositions in the form of further areas in need of empirical investigation. In sum, philosophy can be a dialogue partner with a voice of its own.

This is my preferred form of philosophizing with, because it is the most ambitious one for philosophy (without philosophy turning arrogant) and therefore the one where philosophy can make the most significant contributions to the co-investigation with other disciplines of issues of common interest. I make use of this form of philosophizing with in articles 2-8 of the thesis. As I discuss in article one, there are, however, three other ways in which one may engage in philosophizing with:

- Philosophy as provider of a priori conceptual analyses. This is the abovementioned, traditional role ascribed to philosophy, where philosophy is the "queen of the sciences" because its role is thought to be to conceptually legislate what it makes sense or not to say. The referenced work by Bennett and Hacker, critiquing the use of cognitive terminology within neuroscience, is an example of this approach. In my view, the approach is flawed because it fails to take into account that concepts are bound up with the empirical. Even if one does not accept Quine's argument to this effect, it is not always an easy task to separate 'conceptual questions' from empirical ones. Before modern physics, it was believed, for instance, to be a conceptual matter (and true) that the shortest distance between any two points in our actual universe is a straight line. This has turned out to be an empirical claim – and a false one at that. The approach is, of course, also exceedingly arrogant.
- Philosophy as clarifier of scientific concepts and their implications. On this view, philosophy is also construed as concerned with conceptual analysis. However, instead of legislating for the sciences a priori to investigation, state-of-the-art empirical research is taken as premise and outset. The role of philosophy is therefore rather to be "handmaiden to the sciences" or conceptual helper in clarifying conceptual issues. It may play the role of "evaluator of vocabularies", not in order to legislate against some uses of words, but in order to determine for example whether different disciplines are actually using the same words to discuss different phenomena – or phenomena different from the ones lay people mean by the same words. As Jackson has argued, this may itself be an important undertaking (Jackson, 1998). Searle's famous Chinese Room argument

against strong artificial intelligence is an example of this kind of philosophizing with (Searle, 1980). Basically, Searle is arguing that a computer does not understand – at least not in the same sense as we humans do. On my view, philosophizing with in this form may indeed contribute in important ways to other disciplines; yet such contributions do not exhaust philosophy's possibilities of co-investigating issues of common interest with other disciplines.

- Philosophy as interpreter of scientific results. This view agrees with the former in taking state-of-the-art empirical research as its outset. However, it views philosophy as having a role in interpreting the results of science and the implications of these results; not only in clarifying the concepts involved. Though conceptual clarification may be part of the interpretation process, other methods may be engaged, such as phenomenology, hermeneutics, or critical theory. One example is Gallagher's phenomenological interpretation of cognitive science research as evidencing that we engage in the world based on a pre-reflective, lived "body schema" (Gallagher, 2005). With inspiration from Merleau-Ponty, Gallagher argues for a version of embodied cognition where our bodily being, posture, movement, and interaction with others shape our concepts, understanding and reflection. I apply this form of philosophizing with in the last two articles of my thesis. These articles concern the challenges which educators often encounter when they introduce so-called Web 2.0 activities as learning activities within the educational system. The challenges include student collaboration, evaluation criteria, and inconsistent implicit competence demands placed on students. I interpret and explain these challenges based on an analysis of the different 'practice logics' (Bourdieu, 1977, 1990) incorporated in educational and Web 2.0 practices, respectively. In particular, I argue that the challenges are a result of tensions between the practices' diverging inherent understandings of knowledge and learning.

Engaging in philosophizing with in my preferred form of dialogue partner will often include conceptual clarification and interpretation of scientific results. Thus, the latter two forms of philosophizing also have roles to play. However, as they restrict themselves to taking state-of-the-art empirical research as their indisputable outset, they do not fully realize the potential of philosophy for co-investigating issues with other disciplines. Despite its arrogance, the form of provider of a priori conceptual analyses actually does not realize this potential either: it only aims to charter out the borders for empirical research, but not to engage in investigation and interpretation of these issues.

4 Philosophical outset: Being-in-the-world and tacit knowledge

The outset for my engagement in philosophizing with the learning field is a certain basic ontological understanding of human existence and a corresponding initial take on the epistemological issue of what human knowledge is. This outset has been developed and challenged through my engagement with the learning field in articles 2-8, leading me to an encompassing view of knowledge, learning, and situativity. I shall briefly summarize aspects of this view in the next three sections. In the present section, I concentrate on explicating the outset.

My primary sources of inspiration within philosophy have been Heidegger, Merleau-Ponty, the later Wittgenstein, and Dreyfus (in particular his reading of the former three philosophers and his use of them to develop his view of intuitive expertise) (Dreyfus, 1979; Dreyfus & Dreyfus, 1986; Heidegger, 1986; Merleau-Ponty, 1962; Wittgenstein, 1984a, 1984b). With Heidegger and Merleau-Ponty, I view human existence as a being-in-the-world: We are always already in the world as active, bodily beings; taken up with the world and our doings in them; with a pre-reflective, non-thematized, holistic, bodily incorporated understanding of the world, of our place in it; and of the overall sense or purpose of our actions. Saying that this understanding is 'pre-reflective' and 'non-thematized' means that it is there before reflection, without our cognitive awareness of it, as that which provides initial sense to the given situation – as the background upon which that of which we are cognitively aware stands out and makes sense. Saying that it is 'holistic' means that it lets situations present themselves as meaningful wholes and lets aspects of the situation present themselves as aspects with the meaning they have within the whole. Saying that it is bodily incorporated means that situations meet us in our embodiment, with demands and possibilities for us as active, bodily beings, and that we act, react, and interact as bodily beings with this understanding. The world thus meets us actionably on the background of our pre-reflective understanding: It presents itself with action-oriented significance (i.e. with the sense of what we can do in the situation) and calls upon us to undertake certain actions (and not others).

A simple example from within the learning field of this pre-reflective, holistic, bodily incorporated understanding is the way students and teachers immediately arrange themselves and interact in a classroom: The classroom has initial holistic significance as a setting within the educational system; the individual persons have their roles determined through this, and the teacher and students 'always already' understand the situation, without it necessarily ever being articulated explicitly. The understanding leads students to take their seats at the desks facing the one, lone desk in front,

and the teacher, conversely, to take up her position at this one, lone desk. It lets certain communication patterns emerge where teachers without being rude can interrupt, query and correct students, but not the other way around. And, if students engage in actions not prompted or supported by the teacher, it provides this behavior with the meaning of being 'off-task' and impertinent.

An inherent aspect of this view of human existence is that our being has epistemological significance. The way we live delimits, designates and partly determines the meaning we make – and can make – of the world. Our understanding of the world is bound up with our doings (holistically understood). This aspect is argued for phenomenologically by Heidegger and Merleau-Ponty. It finds further, and more specific, corroboration in the philosophy of the later Wittgenstein, at least in his Scandinavian reception, to which I basically adhere. This reception emphasizes the concept of practice and the tacit understanding inherent in doing (Johannessen, 1988, 1992; Johannessen & Rolf, 1989; Josefson, 1998; Molander, 1992, 1996; Nordenstam, 1983). It should be noted that this emphasis contrasts somewhat with the focus on language, rule-following, and rule-interpretation which characterizes the reading which Wittgenstein has been given by many other philosophers within the English-speaking world (Baker & Hacker, 1984; Kenny, 1973; C. Winch, 2006; P. Winch, 1990). The Scandinavian emphasis does, however, align with the Wittgenstein-reading of Dreyfus (1979).

Wittgenstein's view complements the phenomenological arguments for the epistemological significance of our being in several ways. Firstly, he argues that "Unsre Rede erhält durch unsre übrigen Handlungen ihren Sinn" (Wittgenstein, 1984b, § 229). This signifies that language should be understood as an integral part of agency in practice. Not only in the sense which Austin and Searle have elucidated that we can "do things with words" through performing specific "speech acts" (Austin, 1962/1975; Searle, 1979, 1985). Rather, the point is, on the one hand, that linguistic utterances are bound up with other actions in the course of 'doing practice'. On the other hand, the point is the more specific one that our words get the meaning they have through their pragmatic interrelation with the holistic meaningfulness of practice. Secondly, Wittgenstein's main claim about rules and rule-following is that inherent in doing practice is a practical understanding of "how to go on". This practical understanding is not an interpretation (pace the English-speaking reception), as any procedure might be interpreted as in agreement with the rule. Instead, it is a practical "feel for" appropriate action; a tacit, actionable attunement to the situation at hand. Examples and training are necessary in learning how to follow a rule, precisely because it is through them that one can develop this practical situational "feel for" what the rule means. The practical understanding of practice – of how to act in attunement to the situation – goes beyond the rule, however, and is that by which we evaluate whether a given rule has been followed or not. It is also that by which we evaluate whether a given rule has become obsolete and must be changed or abandoned. Thirdly, Wittgenstein points out that our words have tacit meanings. The practical understanding of how to follow a rule provides one type of example: We can know how to use a word like 'game' without being able to explicate a set of necessary and jointly sufficient criteria for its use.[2] The sound of a clarinet provides another type of example: We cannot articulate in words how it sounds, despite knowing this very well. In sum, Wittgenstein's position complements the phenomenological position by pointing out more specifically how our understanding is bound up with our practice and therefore with our being; by explicating this understanding as tacit; and by showing how the words we articulate our views in draw on the tacit understanding.

With inspiration from the same three philosophers, Dreyfus has provided a more detailed account of tacit knowledge as it is displayed in the skill of the expert. His claim has been that, across different domains, skill development phenomenologically follows the same five stage model, culminating in intuitive expertise as the last stage. It is above all this phenomenological description of what characterizes the expert's cognition and actions that I draw on from Dreyfus. Thus, as indicated, he argued that the expert recognizes each unique situation as similar to other situations he has been in and acts accordingly; flexibly adjusting to the particulars of the present situation. Further, the gestalt recognition which this builds on is a pattern recognition across individual examples, not an abstraction of "essential traits" into schemas or models. In accordance with his inspiration from Heidegger and Merleau-Ponty, Dreyfus claimed that it is the gestalt that decides what counts as traits, not to mention as essential traits, rather than the other way around. And, again in accordance with this outset, recognition of the gestalt of a situation is first and foremost a bodily recognition, not a reflective or descriptive one: It is recognition in the form of a call for specific actions, experienced as 'the drawing out of me' of these actions by the situation. On the basis of this analysis, Dreyfus has argued that actions can be regular without being rule-governed or predictable (Dreyfus, 1979). His analyses thus provide further epistemological detail to the tacit understanding which I with Wittgenstein claim is involved in practice. His view has inspired my understanding of skill (which I term 'practical knowledge') and the roles it plays in letting situations

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[2] One might add that even if we could explicate such criteria, recognizing when they apply would constitute another example of practical understanding.

present themselves as meaningful. It has thus helped flesh out my phenomenological-cum-Wittgensteinian view of the epistemological significance of our human being-in-the-world.

5 Knowledge as 'knowledge in practice'

Through philosophizing with the learning field, my initial outset is developed (in particular in articles 3-6) into a view of 'knowledge in practice' as a holistic unity of three interrelated aspects:

- Propositional knowledge (also called), exemplified by statements such as "Donald Trump was president of the United States in 2017", "Force equals mass times acceleration", and "Pavlov did research on animal behaviour".
- Practical knowledge (know how or skill), e.g. riding a bicycle, driving a car, solving second-order polynomial equations, and arguing persuasively.
- Experiential knowledge (know of or knowledge by acquaintance or by familiarity), such as the look of the colour mauve, the taste of kangaroo, the feeling of being addicted to smoking, and the sorrow of losing a beloved family member.

The latter two aspects are tacit in the sense that one cannot communicate them to others if they have not themselves developed a similar skill or experienced similar situations. They do, however, supply a tacit resonance field of meaning which can be drawn upon to 'fill out' the words expressing propositional knowledge. Communication partners with similar practical or experiential knowledge can thus make use of the tacit semantic sense with which their words resonate to have 'deeper', meaning-rich conversations. Self-help groups of people in similar life predicaments build on this phenomenon. Propositional knowledge – and words in general – on the other hand may articulate, direct, and transform the tacit aspects. An example is the change which a vague feeling of discontent may undergo if articulated as a more specific feeling such as jealousy, shame or mistrust. If the articulation is acknowledged as adequate, the feeling is changed by that very fact, so that it is no longer vague.

The unity of the three aspects in 'knowledge in practice' may be illustrated with Polanyi's example of students learning to discriminate relevant pulmonary traits on X-ray pictures (Polanyi, 1962). Initially, the students will not even be able to see the lungs, but only the ribs. As they see more pictures, they gradually learn, not only to make out the lungs, but to discriminate traits in them and to distinguish between symptoms of different illnesses and to tell these from traits due to natural variation. In the process, their skill of seeing is developed in one with the experiential knowledge of how various phenomena look, and both provide concrete sense to the terms and propositional knowledge of the textbooks. As their 'knowledge in practice' develops, the relevant traits stand out for them with the significance they have. The example can therefore also be used to illustrate the further claim I make for 'knowledge in practice': that it is perspectival in nature. In the instance of X-ray picture discrimination, this is quite literally the case. Building on the phenomenological view presented above, I argue that in a metaphorical sense, it is also the case for knowledge in practice in general: knowledge in practice is the perspective which lets situations as well as features of the situations present themselves with the significance they have.

In one way, however, Polanyi's example is too restrictive, even deceptive. It does not convey the meaning of X-ray pictures in the practice where they are taken. In medicinal practice, X-ray pictures are taken as part of diagnosis, in the wider context of communicating with and treating patients. They are not static pieces of still life to be contemplated. Rather, the taking of X-ray pictures is itself an action, undertaken as one step in ongoing diagnostic interaction with the given patient, and made sense of on this background. For this reason, further, the significance which traits on the pictures present themselves with is actionable. Signs of pulmonary illnesses present themselves as demanding further actions, such as supplementary diagnostic measures, specific forms of treatment – or indeed, specific forms of consoling or despair-reducing communication.

In line with the points of Heidegger, Merleau-Ponty and Dreyfus, the perspective of knowledge in practice is thus embodied and action-oriented. Rather than speak of 'having' knowledge', I prefer to say that we 'enact' it to emphasize the Wittgensteinian point that it is only fully realized in the acting itself. Knowledge in practice is always situated and concretely realized in relation to the demands of the situation. In one sense, it is a 'style of being-in-the world': The world presents itself differently for the doctor than for the physicist or the banker, giving their different ways ('styles') of engaging aspects of it. This point stresses our knowledge's ontological grounding in how we live.

6   Concerns within the learning field

As indicated, my view of knowledge has been developed through engaging with a number of 'epistemological concerns' within the learning field. As my view matured, it led me to identify even more concerns. It also gave me a take on them. In this section, I point out several of the concerns, starting with some of those in the category of 'common interests' and finishing with a few of the 'worries' which my view has led me to.

Of course, given a view such as mine, there are many more concerns one might engage with than what could possibly be taken up in the course of a lifespan, let alone within one thesis. I therefore needed selection criteria for what to pursue. The selection criterion for 'issues of common interests' has been the philosophical potential of the issue, i.e. its promise of challenging or developing my view of knowledge. For the 'worries', my take on them provided input to ways of "setting the aspects right" (from my point of view of what was wrong). The selection criterion for 'worries' therefore was whether I expected that my input could make a difference.

6.1 Issues of common interests

An obvious first question arose out of my claim that knowledge is only fully realized in action and therefore is situated and context-dependent: How can this situativity and context-dependence be conceptualized? How should we understand 'context' and the way knowledge 'depends' on it? Which kinds of 'influence' are at play here – and is 'influence' (seemingly implying a causal account) even an adequate way of thinking about the dependency relationship? Further, since most human situations involve, depend on, or are co-constituted with other people; what role does social situatedness play in situativity? These issues are prominent within the learning field e.g. in discussions of literacy as textual decoding skills versus as participation in specific, social practices (Gee, 2015; Hansen, 2018; Jewitt & Kress, 2003); of learning processes and outcomes in informal settings as compared to formal ones (Eraut, 2004; Scribner & Cole, 1973; Säljö & Wyndhamn, 1993); and of the role of cognitive apprenticeship (Brown, Collins, & Duguid, 1989; Rogoff, 1990). More generally, they are key to understanding how different approaches to learning conceptualize their field of investigation, and in particular the phenomenon of learning itself (Anderson, Reder, & Simon, 1996; Lave & Wenger, 1991; Packer & Goicoechea, 2000; Säljö, 2000; Vosniadou, 2007). I discuss them in particular in articles 2, 3, and 7.

Related to this question, but emerging out of my claim that knowledge is ontologically grounded in how we live – that knowledge in practice may be viewed as a 'style of being in the world' – a second issue concerns: Clarification of the epistemological significance of being-in-the-world. Again, as our being inherently plays out in human practices involving other people, one aspect of the issue is the significance of our 'being with others' for what we know and learn. Furthermore, a vital aspect of the pre-reflective sense which our 'being in the world' provides, is the understanding of who we ourselves are and what our role and place in the world is. For this reason, the ontological grounding of how we live is intrinsically related to the concepts of self and identity, as understood within anthropological philosophy (Honneth, 1994; Taylor, 1985, 1989) and in accordance with, I would argue, how the concepts should be construed within psychology (cf. Martin, 2007; Packer & Goicoechea, 2000 for examples of such construals).[3] Clarification of this issue therefore involves answering questions such as: How does who we are interrelate with what we know? How does identity development relate to learning? How does what a person may come to know interplay with moment-to-moment negotiations of that person's social position vis-à-vis other people? Within the learning field, these questions are central to the debates between so-called participationists and acquisitionists (Sfard, 1998) as well as to discussions within both groups. Here, the former view learning as a process of becoming a participant in a community (Lave & Wenger, 1991; Sfard, 2008; Wenger, 1998) whereas the latter agree on viewing it as a process of acquiring knowledge, concepts, and skills (Anderson et al., 1996; Dysthe, 2001; Mayer, 2001; Piaget, 1950; Vygotsky, 1978). Large discrepancies exist, however, between the more specific ways in which acquisitionists understand the process of 'acquisition' as well as between their conceptualizations of the elements 'acquired'. The questions raised are key to these discrepancies and therefore to arbitrating on them. A further question, of course, is whether the two fundamentally different positions of the participationists and the acquisitionists can be brought to reconcile. These questions are the focus of article 2.

A third set of issues springs from my claim that knowledge has essential tacit aspects. This claim appears to be challenged by certain empirical experiences of learning, well-known from everyday settings and also documented in research. For these types of experiences, the question therefore arises: How can the developed view of knowledge be brought into agreement with experience and empirical observation? I have focused in particular on two types of experience ICT-mediated learning and reflection.

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[3] It will, however, be incompatible with individualist and objectivistic understandings of self/identity as an entity which the individual has (Eccles, 2009; Oyserman, Elmore, & Smith, 2012).

There are clear examples of viable and fruitful ICT-mediated learning taking place in online fora or learning management systems (Hodgson, 2008; Pilkington & Guldberg, 2009; Rudestam & Schoenholtz-Read, 2002). Viable and fruitful in the sense that participants have developed knowledge new to them, have engaged in meaningful discussions with their peers, and even have had a sense of presence sometimes more acute than in learning situations within physical settings. Certainly, there are also many examples of ICT-mediated learning that fails to live up to expectations (Dohn, 2007a; Ryberg & Wentzer, 2011; Salmon, 2000, 2002). However, given that all learning activities within these ICT-mediated settings take place by means of linguistic communication (mostly written, at least in the early days of ICT-mediated learning), the existence of even one example seemingly calls into question the significance of tacit aspects. This issue is dealt with in article 7.

It is quite generally accepted that reflection is very important in facilitating learning. Study regulations within the educational system often state as a learning objective that students should become 'critically reflective'. Often, reflection is hailed as necessary for understanding and perhaps improving one's life condition (Mezirow, 1991). Practitioners are required to engage in reflective learning (Brockbank, McGill, & Beech, 2002) and reflective activities abound within professional development, both in formal courses and in informal settings (Bolton, 2005; Boud, Keogh, & Walker, 1985; Docherty, Cressey, & Boud, 2006; Johns, 2004). However, it is not clear how reflection is to 'get at' the tacit aspects of knowledge, nor how learning through reflection is to proceed. Moreover, the claim inherent in both the practice and theory of reflection is that tacit knowledge by itself is contingent and in need of justification and qualified development. Allegedly, this is precisely what reflection can provide. The apparent pervasiveness of reflective activities thus poses a challenge to the justifiability of knowledge based on tacit aspects and more generally to the adequacy of my view of knowledge. The challenge is the focus of article 5 where I argue that the reflective activities so pervasively used both in education and in practice actually build upon highly problematic epistemological presuppositions.

6.2 Epistemologically worrying issues

Pursuing the issue of tacit knowledge vis-à-vis examples of successful ICT-mediated learning led me into the more specific areas of networked learning and computer-supported collaborative learning and its support within the field of human-computer interaction. Within these areas, Gibson's concept of 'affordance' (Gibson, 1986) is widely used to investigate design for and use of ICT for learning because it focuses on the action possibilities which an object poses for the learner. However, the inconsistencies in ontology and epistemology was striking, not only across theoretical positions but even within single texts (Norman, 1988/2002; Tchounikine, 2008). Adding to my worry about these inconsistencies was the fact that none of the texts seemingly acknowledged the role of our body in making sense of the world and of acting adequately in it. Given my Merleau-Pontian inspired view of knowledge as bodily incorporated, the texts seemed to miss the most important point about action possibilities: that concrete situations meet a person as actionably structured on the basis of the knowledge, skill, and experience incorporated in that person's body. I took on the task of remedying this worry in article 4 where I develop a Merleau-Pontian account of 'affordances'. On this account, affordances have a dynamic, agent-centered, cultural- experience- and skill-relative, but perception-independent ontology. I show how my approach makes a difference in concrete analyses of learning as well as leads to different recommendations for the design of learning opportunities.

A second epistemological worry was sparked by the credence accorded in educational politics, nationally and internationally, to the results of OECD's Programme for International Student Assessment (PISA). PISA professes to hold a broad notion of knowledge and skills and to aim at assessing students' capacity to put these to use in a range of so-called "real-life" situations (OECD, 2004, p. 23). Given this claim, its test format of a two-hour quantitative survey appeared an inappropriate operationalization. The credence therefore seemed unjustified and the making of educational political decisions based on them haphazard. I pursued this worry in article 7, arguing that PISA tests students' abilities to exercise their knowledge and skills in one very special kind of "real-life" situation (participating in a quantitative survey), which lead to different competence evaluations than other "real life" situations. PISA is therefore not warranted in generalizing results beyond this type of situation. My argument is illustrated by analyzing one of the PISA test items and its scoring guide (OECD, 2002, p. 45).

Within the learning field, quite a lot of the empirical research is undertaken as forms of action research where researchers in cooperation with practitioners intervene in practice with the aim of improving it (Eikeland, 2012; Reason & Bradbury, 2001). Given my view of knowledge, this is epistemologically worrying, at least if action researchers have not developed some degree of 'knowledge in practice' within the practice they intervene in: How are they supposed to understand, let alone evaluate, the practice developments they initiate without the tacit knowledge perspective of the

practitioner to let situations present themselves with the significance they have? In an important sense, the action researchers simply do not know what they are doing. This worry is the focus of article 6 where I point to the need for researchers and practitioners to intertwine research 'knowledge in practice' with action practice 'knowledge in practice' through engaging extensively in each other's practices.

The final worry to be mentioned was already touched upon above. It emerged as I witnessed Web 2.0 activities such as the writing of wiki, blog or social media posts increasingly being introduced as learning activities in educational practices. The motivation for doing this is clear enough, as Web 2.0 activities center on user production of content and interactive multi-way communication. They thus support active learning in collaboration with others. What worried me was the many problems concerning quality, assessment and cheating experienced in practice and reported in the research literature (Bruns & Humphreys, 2005; Farmer, Yue, & Brooks, 2008). My worry was not so much the teaching-related one that the problems illustrated students' lack of understanding. My worry was rather the epistemological one that the problems were the result of tensions in implicit understandings of knowledge and learning inherent in Web 2.0 practices and educational practices, respectively. I pursued this worry in articles 9 and 10 where I made us of philosophizing with in the role of interpreter of scientific results. More specifically, I argued that Web 2.0 practices inherently build on a participation metaphor of learning whereas educational practices build on a metaphor of acquisition. I showed how the discrepancies between these inherent views place incoherent competence demands on students and lead to the experienced problems.

7   Contributions to the learning field

My engagement with the identified concerns have led me to develop my view in several ways which also contribute with new conceptualizations to the learning field. I summarize a few of the points here.

The first point concerns situativity and context-dependency. Theorists who emphasize their significance, often do so indiscriminately, claiming e.g. that person, agency, and social world co-constitute each other (Lave & Packer, 2008; Lave & Wenger, 1991; Packer & Goicoechea, 2000; Säljö, 2000). "There is not first a context and then an action, instead, our actions form part of, create, and recreate contexts. Parts and wholes define each other and context can be seen as that which weaves together a social practice or activity and makes it an identifiable whole", as Säljö puts it (Säljö, 2000, p. 135). This is too crude, however. Depending on the domain, the specific activity undertaken, and the setting in which it is done, the significance of contextuality for determining what constitutes knowledge and skill may be more or less pronounced. For instance, that a mountaineer falling to his death has 'drastically failed' is less up for discussion than the adequacy of an example of interior design will be. Context-dependency is itself context-dependent, one might say. To accommodate to this insight, a framework of context levels for analyzing contextual demands, restrictions and possibilities (what I term 'requirement characteristics') is needed. I have developed such a framework, stressing that requirement characteristics at different levels interact to form a complex whole and that acting competently consists in responding adequately to this complex whole. The reason why PISA cannot generalize their results beyond the test situation is precisely that student answers are made in response to the complex whole of the test situation which differs from the complex wholes of other "real-life" situations. The framework consists of five levels:

- The domain-internal level, concerned with the domain, e.g. linear algebra or genre analysis.
- The activity-internal level, concerned with the activity itself, e.g. having a discussion, reading, solving a math problem, or calculating "best buys" among a range of shopping options.
- The activity-framing level, concerned with the "real-life" situation, e.g. shopping for groceries or participating in an international test.
- The activity-enabling structures level, concerned with the societal structures that enable the existence of the "real-life" situations, e.g. the educational system or the free market.
- The cultural practices level, concerned with the cultural tools and ways of behaving which cut across specific practices in a culture, e.g. the use of stone to make tools or the prevalence of written ICT-mediated communication in today's societies.

Following on from this, I have stressed the further point that situativity certainly includes social situatedness, but that it is an empirical question from situation to situation both how important social mediation is and what roles it more specifically will play. Again, the failure of the mountaineer falling to his death is less a 'socially mediated' fact than the supremacy of the interior design of one room as compared to others. Social mediation is also context-dependent, that is. Furthermore, acknowledging the role of 'social mediation' is not the same as postulating that the phenomena in question are 'socially constituted'. This would only be the case if dependency implied determinacy. Other aspects may

be of significance in determining the phenomena as well, such as domain- or activity-specific characteristics. Defining practice as 'social practice' or even as 'socially constituted practice' as theorists within situated learning do is thus begging the question (Lave & Packer, 2008; Lave & Wenger, 1991; Nielsen & Kvale, 1999). It indiscriminately takes social situativity for granted. Worse, it bars one from asking interesting questions such as what roles social mediation play in determining requirement characteristics at different contextual levels for various specific constellations of domains, activities, and situations.

More particularly, it also bars one from taking a nuanced stance on the questions concerning the interplay of learning, negotiation of social position and identity development. These questions – or at least how to approach them – are decided by fiat in that a systems view is taken as outset for investigating people's learning. Opportunities to learn and the ways in which individual persons are positioned to take up these opportunities are understood as characteristics of the given social practice (e.g. of the classroom or the workplace) (Greeno & Gresalfi, 2008). Individuals' development of knowledge is understood on this background, both as concerns the participation patterns they develop (their 'identities' in the social practice), and as concerns the content of the understanding they construct. Some participationists go so far as to claim that "knowing is not an end in itself, but a means to the ends of recognition and identity" (Packer & Goicoechea, 2000, p. 235). On the face of it, this does not seem reasonable. It corresponds to saying that there is no such thing as intrinsic interest in certain domains (e.g. birds or salt water aquariums) or activities (e.g. solving math problems or learning to read). When people appear to be intrinsically interested, they are in fact pursuing certain identities (being the boy who knows all about birds or the girl who is brilliant in math). This appears contradicted by everyday phenomenological experience. It is also incompatible with a large body of research undertaken within individualist motivation theory approaches (Deci, 1992; Hidi & Renninger, 2006; Krapp, 2005). Incidentally, however, the individualist motivation theories make a similar mistake of stipulating by fiat what makes people engage in learning. For their part, it is just the individualist 'inner' phenomena of intrinsic motivation and interest, rather than the 'outer' phenomena of social negotiation of roles and identities.

My contribution to this issue is to point out that neither of these approaches are adequate, precisely because they both determine by analytical decree what drives people in learning matters, instead of leaving it a question to be investigated empirically. Instead, we should take practice – what we actually do – as outset and leave the concrete significance of social mediation and of intrinsic interest issues for empirical investigation. This allows for the intertwinement of individualist and social system-based aspects in the determination of how we engage (or not) in learning and with what subject matters. It thus allows for a reconciliation of acquisitionists and participationist approaches to learning, based on the modification of both: Quite generally, issues of who we are and want to be tend to intertwine in practice with the knowledge and skills we try to develop, but this need not always be the case, and it is in every instance an empirical question if and how the intertwinement plays out: what leads what in each specific situation, how the interaction develops in moment-to-moment negotiations, and how this potentially changes over time.

Turning to the field of ICT-mediated learning, my concern that successful examples of learning in virtual settings poses a challenge to my view of knowledge led me to further develop it as regards the tacit aspects and our embodiment. This resulted in several important points for the learning field. Firstly, I fleshed out that words get their meaning from our practical engagement in contexts of significance for us; in particular, from our 'primary contexts', i.e. contexts which we consider important for who we are. It is above all the tacit meanings from these contexts that resonate in our words. In this sense, we bring the contexts with us and they can form an outset for making sense in new settings, if these settings are not experienced as too unfamiliar. Secondly, I pointed out that we do not engage in virtual settings as disembodied beings – instead, we are physically present at a physical device with which we interact physically; we feel emotions physically and potentially react physically (blush, bang the table, giggle or laugh out loud) to posts which hurt, annoy, delight, or exasperate us. Though posts are communicated through a setting whose physical location may not be clear to us (albeit it, of course, is hosted at some physical server somewhere), the communication process itself is a process between real, physical human beings. Thirdly, I argued that virtual settings can become primary contexts for us, precisely because we engage as embodied beings also in such settings. Facebook thus is a primary context for many young people anno 2017. Fourthly, however, since fora for ICT-mediated learning within the educational system are hardly ever primary contexts for participants at the outset, they tend to be experienced as detached, irrelevant, and 'too abstract' because they fail to draw on tacit aspects from primary contexts. This problem is amplified by the fact that is easy to become distracted from one's engagement in ICT-mediated activities, because the physical locations from where it takes place often is identical to that of one or more other primary contexts.[4] For this reason, ICT-mediated learning activities in general have greater chances of being successful if designed as 'mediator activities' instead of as

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[4] The opposite phenomenon – where someone is distracted form a conversation at the physical location by what goes on in a virtual one – is familiar as well, of course, especially if the virtual setting is a primary context.

'stand-alone' contexts. In mediator-activities, focus is on using ICT-mediation to facilitate the resituating of content between primary contexts learners', rather than on establishing new primary contexts.

8 Concluding remarks

In this essay I have laid out some of the key points from my dr.phil thesis. The main aim has been to present my argument for a form of applied philosophy where philosophy takes on the role of dialogue partner with a voice of its own. I have illustrated how this can be done by highlighting some of the issues I have engaged with and a few of the answers which dialogue with other disciplines has led me to.

By way of conclusion, I wish to point to a couple of issues for future dialogues, given the specific view of knowledge that I hold. One such issue is the investigation of knowledge transfer across contexts: If knowledge is fundamentally situated and context-dependent, how come we, sometimes at least, manage to put knowledge, learned in one context, to use in others? Knowledge transfer, that is, seems to represent a challenge to my view. On the other hand, empirical research within situated learning has repeatedly shown that knowledge transfer is not an easy matter (Lave & Wenger, 1991; Nielsen & Kvale, 1999; Tuomi-Grohn & Engestrom, 2003). Meeting the challenge will therefore most likely involve a development of my view where processes of knowledge transformation and resituation are accounted for in detail.

A further issue follows from this: Contemporary society is characterized by requiring of citizens mobility, flexibility and adaptation. Utilization of knowledge in new, unfamiliar situations is often necessary. If knowledge transfer involves transformation and resituation, should the educational system then not prepare citizens for this? If yes, developing designs for learning that support students in learning to transform and resituate knowledge would seem to be an important challenge for the learning field. And relevant to *this* challenge is the more specific question of how ICT-mediated learning activities may be drawn on to facilitate the necessary learning. A potential answer, given my view of knowledge and ICT-mediation, could be: as mediating activities, drawing on and resituating tacit knowledge across primary contexts. At the very least, this potential answer points out a direction to pursue in my future research.

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